

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) Element having
a substrate of a hard metal or cermet comprising hard material particles and binding material
and a diamond layer,
wherein the diamond layer is disposed over a first region of intact substrate material within which hard material particles are surrounded by binding material,
wherein the transition region of the first region, which is disposed towards the diamond layer, comprises a depth profile having indents and elevations,
and wherein the diamond layer is braced with the substrate material such that portions of the diamond layer are disposed deeper in the substrate than elevations of the first region characterised in that:
between the first region and the diamond layer there is disposed a porous zone in which hard material particles are free of binding material and
wherein the hard material particles form an intact hard material particle structure within the porous zone and are not weakened at the grain edges by etching.

2. (Previously Presented) Element according to Claim 1 wherein the porous zone comprises an average thickness of $3\text{-}7\mu\text{m}$.

3. (Currently Amended) Element according to Claim 1 wherein the porous zone comprises an average thickness d , the depth profile of the transition region of the first region comprises an average peak-to-valley height Rz and a maximum peak-to-valley height $Rmax$ and wherein d is less than or equal to $Rmax$ and preferably d is less than or equal to Rz .

4. (Currently Amended) Element according to Claim 1 wherein the substrate material contains WC hard material particles and a binder containing Co, and wherein the grain size of the hard material particles is less than 0.8 μm and preferably less than 0.5 μm .

5. (Currently Amended) Element according to Claim 1 wherein the binding material contains 3 to 12% and preferably more than 6% and particularly preferably 8 to 10% cobalt.

6. (Currently Amended) Element according to Claim 1 wherein the transition region of the first region comprises an average peak-to-valley height Rz of 1 to 20 μm , preferably 2 to 10 μm and particularly preferably 3 to 7 μm .

7. (Currently Amended) Element according to Claim 1 wherein the average peak-to-valley height Rz of the transition region of the first region is greater than the grain size of the hard metal, preferably more than five times the grain size of the hard metal.

8. (Previously Presented) Method for coating a substrate material with a diamond layer wherein the substrate material contains hard material particles and binding material wherein

a binding material-selective etching is executed in a first step, wherein the binding material in a border zone of the substrate is removed,

a hard material-selective etching is executed in a second step, wherein the hard material particles in the border zone are completely removed so that a surface profile with elevations and indents is created,

a binding material-selective etching is executed in a third step, wherein a binding material concentration on the surface is removed,

and the substrate is coated with a diamond layer thereafter.

9. (Original) Method according to Claim 8 wherein the etching executed in the third step comprises a lesser etching depth than the etching executed in the first step.

10. (Previously Presented) Method according to Claim 8 wherein in the second step the etching is executed with one of the following chemicals: compounds of potassium permanganate and

caustic soda, compounds of potassium ferricyanide and caustic soda, caustic soda, caustic potash solution and/or sodium carbonate.

11. (Previously Presented) Method according to Claim 8 wherein in the third step the etching is executed as electrochemical etching with sulphuric acid and/or hydrochloric acid or as chemical etching with HCl/H₂O₂ or H₂SO₄/H₂O₂.

12. (Previously Presented) Method for coating a substrate material with a diamond layer wherein the substrate material comprises hard material particles and surrounding binding material wherein

in a first step a selective etching of the binding material is executed,
hard material particles are removed in a subsequent mechanical removal step by means of a blasting process with blasting particles,
and the substrate is afterwards coated with a diamond layer.

13. (Original) Method according to Claim 12 wherein a binding material-selective etching step is executed after the mechanical removal step.

14. (Previously Presented) Method according to Claim 12 wherein a cleaning step is executed before the coating.

15. (Previously Presented) Method according to Claim 12 wherein the blasting particles consist of SiC and comprise a grain size of less than 100 µm.

16. (Currently Amended) Method according to Claim 8 wherein in the first step an average etching depth of 1 to 20 µm, preferably 2 to 10 µm and particularly preferably 3 to 7 µm is achieved.

17. (Previously Presented) Method according to Claim 8 wherein in the first step the etching is executed with one of the following chemicals: HCl, HNO₃, compounds of H₂SO₄ and H₂O₂, compounds of HCl and H₂O₂.

18. (Previously Presented) Method according to Claim 8 wherein the diamond layer is applied by means of CVD.

19. (Currently Amended) Method according to Claim 12 wherein in the first step an average etching depth of 1 to 20 μm , preferably 2 to 10 μm and particularly preferably 3 to 7 μm is achieved.

20. (Previously Presented) Method according to Claim 12 wherein in the first step the etching is executed with one of the following chemicals: HCl, HNO₃, compounds of H₂SO₄ and H₂O₂, compounds of HCl and H₂O₂.

21. (Previously Presented) Method according to Claim 12 wherein the diamond layer is applied by means of CVD.

22. (New) Element according to Claim 3 wherein d is less than or equal to Rz.

23. (New) Element according to Claim 4 wherein the grain size of the hard material particles is less than 0.5 μm .

24. (New) Element according to Claim 5 wherein the binding material contains more than 6% cobalt.

25. (New) Element according to Claim 24 wherein the binding material contains 8 to 10% cobalt.

26. (New) Element according to Claim 6 wherein the transition region of the first region comprises an average peak-to-valley height Rz of 2 to 10 μm and particularly preferably 3 to 7 μm .

27. (New) Element according to Claim 26 wherein the transition region of the first region comprises an average peak-to-valley height Rz of 3 to 7 μm .
28. (New) Element according to Claim 7 wherein the average peak-to-valley height Rz of the transition region of the first region is more than five times the grain size of the hard metal.
29. (New) Method according to Claim 16 wherein in the first step an average etching depth of 2 to 10 μm is achieved.
30. (New) Method according to Claim 29 wherein in the first step an average etching depth of 3 to 7 μm is achieved.
31. (New) Method according to Claim 19 wherein in the first step an average etching depth of 2 to 10 μm is achieved.
32. (New) Method according to Claim 31 wherein in the first step an average etching depth of 3 to 7 μm is achieved.